

REMARKS

This paper is being submitted in response to the Office Action mailed in the application on June 6, 2005. Claims 1-4, 7-11 and 14-18 are pending. Claims 1, 7, 8 and 18 have been amended.

A Petition for One Month Extension of Time is being submitted together with this Amendment. Also enclosed is our firm check in the amount of \$120.00 in payment of the fee for the extension of time. Please charge any additional amounts for fees, if necessary for entry of this Amendment, to our Deposit Account No. 03-3415.

The Examiner has rejected claims 1-4, 7-11 and 14-18 under 35 U.S.C. § 103(a) as being unpatentable over the acknowledged Prior Art disclosed in applicant's FIGS. 6A and 6B in view of Nakagishi (U.S. Patent No. 6,424,068). The Examiner states that FIG. 6B discloses a rotor (driving lever) 102 which is connected to a light quantity adjusting device (not shown), first bearing 101a and second bearing 104a which are illustrated as formed in a bobbin, a Hall element 118 to detect the rotation position of the rotor (rotor magnet 103), and a yoke 105 arranged in a position shifted in a thrust direction with respect to the magnet. According to the Examiner, page 6, lines 3-6 of applicant's specification discloses that the axis of rotation to which the rotor magnet is fixed is biased in a radial direction. The Examiner acknowledges that the acknowledged Prior Art does not teach the first bearing having a tapered shape and the fitted and axis portion being in a relation of a line osculation.

The Examiner turns to the Nakagishi patent, which teaches a motor device for controlling a device that requires high stability, some embodiments of which include tapered and semi-spherical bearings with biasing means to obtain high stability. In particular, the

Examiner argues that FIGS. 23 and 24 show a fitted and axis portion in a relation of line osculation where the parts 101 and 103 in FIG. 23 come into contact, and parts 105 and 101 (by 101 applicant assumes the Examiner means 115) come into contact in FIG. 24. The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time of applicant's invention, to substitute improved bearings and axial portions of shapes similar to parts 101, 103, 105, and 115 in FIGS. 23 and 24. With respect to applicant's claims, as amended, the Examiner's rejection is respectfully traversed.

Applicant's claims have been amended to clarify the features of the present invention. In particular, independent claims 8 and 18, which are directed to a device for adjusting the quantity of light provided to an image pickup device, and claims 1 and 7, which are directed to a driver used in such a device, including a rotor, a first bearing, a second bearing, and a yoke, have been amended to additionally recite a bobbin including a first case and a second case; and a coil wound around the outer periphery of the bobbin to thereby fix the first case and the second case. These claims have been further amended to recite that the first bearing and the second bearing are provided in the first case and the second case.

As more clearly defined by applicant's amended independent claims, the first bearing and second bearing (1a and 4a, shown in FIGS. 1A and 1B) are provided in the first case (1) and second case (4), respectively. The first case and second case form a bobbin (page 12, lines 18-20 of applicant's specification) and a coil (19) is wound around an outer periphery of the bobbin to thereby fix the first case 1 and the second case 4 (FIG. 2B; page 12, line 27-page 13, line 3). In the device and driver as recited in applicant's amended claims, therefore, in addition to fixing the first case 1 and second case 4, the coil 19 also generates a torque in the rotor

magnet 3 (when a current is caused to flow through the coil) which, together with yoke 5, urges the rotor in the axial direction. Such structure makes it possible to readily assemble the device with reduced number of parts and to contribute to the miniaturization and lightening of the device. Such construction is neither taught nor suggested by the admitted Prior Art or the Nakagishi patent, either alone or in alleged combination.

Nakagishi teaches a galvano mirror unit to enable a stable tracking operation of an optical disk drive, in which an upper center pin (101 or 105) contacts the conical surface of an upper receiver member 103 or indentation 115 as shown in FIGS. 23 and 24 and described (Col. 13, line 24-Col. 14, line 19) with respect to the fourth embodiment. The tapered and semi-spherical bearings shown in Nakagishi help the device achieve high stability and reduce undesired movements. However, Nakagishi fails to teach or suggest a bobbin including a first case and a second case or a coil wound around the outer periphery of the bobbin to thereby fix the first case and the second case, as required by applicant's amended claims.

Moreover, the parts 101 and 103 in FIG. 23 and the parts 105 and 101 (by 101 applicant assumes the Examiner means 115) in FIG. 24 in Nakagishi are not believed teach or suggest modifying the prior art structure shown in FIGS. 6A and 6B of applicants' specification in a manner which would result in applicant's amended claims. In particular, in FIGS. 23 and 24 of Nakagishi the parts 101 and 115 are center pins and the parts 103 and 105 are axis portions of the rotatable mirror holder 100. Nakagishi thus does not teach or suggest a fitted portion of an axis portion which is fitted into a bearing formed as a tapered shape, nor a fitted portion of a first bearing into which an axis portion is fitted formed into a tapered shape. In Nakagishi, the

tapered axis portion 103 receives a pin, but is not fitted into a bearing, and the axis portion 105 is fitted into a tapered pin, but is not fitted into a tapered bearing.

Thus, Nakagishi would not teach or suggest to the skilled artisan modification of the structure of FIGS. 6A and 6B of applicant's specification as claimed in applicant's amended claims, i.e., to include "a fitted portion of the first bearing into which the axis portion is fitted is formed into a tapered shape" or a "fitted portion of the first bearing into which the axis portion is fitted is formed into a tapered shape."

Applicant's independent claims 1, 7, 8 and 18, each of which recite these features in one form or another, thus patentably distinguish over the acknowledged Prior Art and the Nakagishi patent, alone or in combination.

Applicant's amended independent claims and their respective dependent claims are therefore all submitted as patentable. Reconsideration of these claims is respectfully requested.

If the Examiner believes that an interview would expedite consideration of this Amendment or of the application, a request is made that the Examiner telephone applicant's counsel at (212) 790-9278.

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Respectfully submitted,

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